

### ***Amendments to the Claims***

This listing of claims will replace all prior versions, and listings of claims in the application.

Claim 1. (Previously presented) A positionally addressable array comprising a plurality of different substances on a solid support, with each different substance being at a different position on the solid support, wherein the density of the different substances on the solid support is at least 100 different substances per cm<sup>2</sup>, and wherein the plurality of different substances comprises 61 kinases or functional kinase domains thereof of an organism selected from the group consisting of a mammal, yeast, and *Drosophila*.

Claim 2. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 100 and 1,000 different substances per cm<sup>2</sup>.

Claim 3. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 1,000 and 10,000 different substances per cm<sup>2</sup>.

Claim 4. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 10,000 and 100,000 different substances per cm<sup>2</sup>.

Claim 5. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 100,000 and 1,000,000 different substances per cm<sup>2</sup>.

Claim 6. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 1,000,000 and 10,000,000 different substances per  $\text{cm}^2$ .

Claim 7. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 10,000,000 and 25,000,000 different substances per  $\text{cm}^2$ .

Claim 8. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is at least 25,000,000 different substances per  $\text{cm}^2$ .

Claim 9. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is at least 10,000,000,000 different substances per  $\text{cm}^2$ .

Claim 10. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is at least 10,000,000,000,000 different substances per  $\text{cm}^2$ .

Claim 11. (Original) The array of claim 1 wherein the solid support is a glass slide.

Claim 12. (Withdrawn) The array of claim 1 wherein each different substance is present in a different well on the surface of the solid support.

Claim 13. (Withdrawn) The array of claim 12 wherein each different substance in a different well is bound to the surface of the solid support.

Claim 14. (Withdrawn) The array of claim 12 wherein each different substance in a different well is not bound to the surface of the solid support.

Claim 15. (Withdrawn) The array of claim 12 wherein each different substance in a different well is in solution.

Claim 16. (Withdrawn) The array of claim 12 wherein each well contains reagents for assaying biological activity of a protein or molecule.

Claims 17-92. (Canceled).

Claim 93. (Withdrawn) A kit comprising:

(a) one or more arrays of claim 1 comprising a plurality of wells on the surface of the solid support wherein the density of the wells is at least 100 wells/cm<sup>2</sup>, wherein each of said different substances is present in a different well; and

(b) in one or more containers, one or more probes, reagents, or other second molecules.

Claim 94. (Withdrawn) The kit according to claim 93 wherein said one or more containers comprise a reagent useful for assaying biological activity of a protein.

Claim 95. (Withdrawn) The kit according to claim 93 wherein said one or more containers comprise a reagent useful for assaying interactions between a probe and a protein.

Claim 96. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is in solution.

Claim 97. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is in solid form.

Claim 98. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is contained in each well of the array.

Claim 99. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is contained in selected wells of the array.

Claim 100. (Withdrawn) The kit according to claim 93 wherein said one or more containers contain a solution reaction mixture for assaying biological activity.

Claim 101. (Withdrawn) The kit according to claim 100 wherein said one or more containers contain one or more substrates to assay said biological activity.

Claims 102-105. (Canceled).

Claim 106. (Withdrawn) The array of claim 1 wherein the solid support is composed of a silicone elastomeric material.

Claim 107. (Withdrawn) The array of claim 106 wherein the silicone elastomeric material is polydimethylsiloxane.

Claims 108 to 111. (Canceled).

Claim 112. (Withdrawn) The kit of claim 93 wherein the solid support is selected from the group consisting of a ceramic, amorphous silicon carbide, castable oxide, polyimide, polymethylmethacrylate, polystyrene, and silicone elastomer.

Claim 113. (Withdrawn) The kit of claim 112 wherein the solid support is a silicone elastomer.

Claim 114. (Withdrawn) The kit of claim 112 wherein the solid support is a polydimethylsiloxane.

Claim 115. (Withdrawn) The kit of claim 93 wherein the plurality of different substances are attached to the solid support via a 3-glycidoxypyltrimethoxysilane linker.

Claim 116. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 100 and 1,000 wells/cm<sup>2</sup>.

Claim 117. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 1,000 and 10,000 wells/cm<sup>2</sup>.

Claim 118. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 10,000 and 100,000 wells/cm<sup>2</sup>.

Claim 119. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 100,000 and 1,000,000 wells/cm<sup>2</sup>.

Claim 120. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 1,000,000 and 10,000,000 wells/cm<sup>2</sup>.

Claim 121. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 10,000,000 and 25,000,000 wells/cm<sup>2</sup>.

Claim 122. (Withdrawn) The kit of claim 93 wherein each different substance in a different well is bound to the surface of the solid support.

Claim 123. (Withdrawn) The kit of claim 122 wherein each different substance in a different well is covalently bound to the surface of the solid support.

Claim 124. (Withdrawn) The kit of claim 123 wherein each different substance in a different well is covalently bound to the surface of the solid support through a linker.

Claim 125. (Withdrawn) The kit of claim 124 wherein the linker is 3-glycidoxypentyltrimethoxysilane.

Claim 126. (Withdrawn) The kit of claim 122 wherein each different substance in a different well is non-covalently bound to the surface of the solid support.

Claim 127. (Withdrawn) The kit of claim 93 wherein each different substance in a different well is free of binding to the surface of the solid support.

Claim 128. (Withdrawn) The kit of claim 93 wherein each different substance in a different well is in solution.

Claim 129. (Withdrawn) The kit of claim 93 wherein each well contains reagents for assaying biological activity.

Claim 130. (Withdrawn) The kit of claim 93 wherein volumes of the wells are between 1 pl and 5 $\mu$ l.

Claim 131. (Withdrawn) The kit of claim 93 wherein volumes of the wells are between 1 nl and 1  $\mu$ l.

Claim 132. (Withdrawn) The kit of claim 93 wherein volumes of the wells are between 100 nl and 300 nl.

Claim 133. (Withdrawn) The kit of claim 93 wherein the bottoms of the wells are square, round, V-shaped or U-shaped.

Claims 134-137. (Canceled).

Claim 138. (Withdrawn) The array of claim 1 wherein the solid support is selected from the group consisting of a ceramic, amorphous silicon carbide, castable oxide, polyimide, polymethylmethacrylate, polystyrene, and silicone elastomer.

Claim 139. (Withdrawn) The array of claim 1 wherein the solid support is a silicone elastomer.

Claim 140. (Withdrawn) The array of claim 139 wherein the solid support is a polydimethylsiloxane.

Claim 141. (Previously presented) The array of claim 1 wherein the plurality of different substances are attached to the solid support via a 3-glycidopropyltrimethoxysilane linker.

Claim 142. (Withdrawn) The array of claim 12 wherein the density of the wells is between 100 and 1,000 wells/cm<sup>2</sup>.

Claim 143. (Withdrawn) The array of claim 12 wherein the density of the wells is between 1,000 and 10,000 wells/cm<sup>2</sup>.

Claim 144. (Withdrawn) The array of claim 12 wherein the density of the wells is between 10,000 and 100,000 wells/cm<sup>2</sup>.

Claim 145. (Withdrawn) The array of claim 12 wherein the density of the wells is between 100,000 and 1,000,000 wells/cm<sup>2</sup>.

Claim 146. (Withdrawn) The array of claim 12 wherein the density of the wells is between 1,000,000 and 10,000,000 wells/cm<sup>2</sup>.

Claim 147. (Withdrawn) The array of claim 12 wherein the density of the wells is between 10,000,000 and 25,000,000 wells/cm<sup>2</sup>.

Claim 148. (Withdrawn) The array of claim 12 wherein each different substance in a different well is bound to the surface of the solid support.

Claim 149. (Withdrawn) The array of claim 148 wherein each different substance in a different well is covalently bound to the surface of the solid support.

Claim 150. (Withdrawn) The array of claim 149 wherein each different substance in a different well is covalently bound to the surface of the solid support through a linker.

Claim 151. (Withdrawn) The array of claim 150 wherein the linker is 3-glycidoxypyltrimethoxysilane.

Claim 152. (Withdrawn) The array of claim 148 wherein each different substance in a different well is non-covalently bound to the surface of the solid support.

Claim 153. (Withdrawn) The array of claim 12 wherein each different substance in a different well is free of binding to the surface of the solid support.

Claim 154. (Withdrawn) The array of claim 12 wherein each different substance in a different well is in solution.

Claim 155. (Withdrawn) The array of claim 12 wherein each well contains reagents for assaying biological activity.

Claim 156. (Withdrawn) The array of claim 12 wherein volumes of the wells are between 1 pL and 5  $\mu$ L.

Claim 157. (Withdrawn) The array of claim 12 wherein volumes of the wells are between 1 nL and 1  $\mu$ L.

Claim 158. (Withdrawn) The array of claim 12 wherein volumes of the wells are between 100 nL and 300 nL.

Claim 159. (Withdrawn) The array of claim 12 wherein the bottoms of the wells are square, round, V-shaped or U-shaped.

Claims 160-161. (Canceled).

Claim 162. (Withdrawn) The kit of claim 93 wherein the organism is selected from the group consisting of human, primate, mouse, rat, cat, dog, horse, and cow.

Claim 163. (Canceled).

Claim 164. (Previously presented) The array of claim 1 wherein the organism is selected from the group consisting of human, primate, mouse, rat, cat, dog, horse, and cow.

Claim 165. (Withdrawn) The array of claim 12 wherein the organism is selected from the group consisting of human, primate, mouse, rat, cat, dog, horse, and cow.

Claim 166. (Canceled).

Claim 167. (Withdrawn) The kit of claim 162, wherein the organism is human.

Claim 168. (Canceled).

Claim 169. (Currently amended) The array of claim 164 ~~or 165~~, wherein the organism is human.

Claim 170. (Canceled).

Claim 171. (Withdrawn) The kit of claim 162, wherein the organism is mouse.

Claim 172. (Canceled).

Claim 173. (Currently amended) The array of claim 164 ~~or 165~~, wherein the organism is mouse.

Claim 174. (Previously presented) The array of claim 166, wherein the organism is mouse.

Claim 175. (Withdrawn) The kit of claim 162, wherein the organism is rat.

Claim 176. (Canceled).

Claim 177. (Currently amended) The array of claim 164 ~~or 165~~, wherein the organism is rat.

Claim 178. (Canceled).

Claims 179-180. (Canceled).

Claim 181. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 61 different kinases of an organism.

Claim 182. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 92 different kinases of an organism.

Claim 183. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 110 different kinases of an organism.

Claim 184. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 116 different kinases of an organism.

Claim 185. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 119 different kinases of an organism.

Claim 186. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 122 different kinases of an organism.

Claim 187. (Canceled).

Claim 188. (Previously presented) The positionally addressable array of claim 1, wherein the kinases are yeast kinases.

Claims 189-191. (Canceled).

Claim 192. (Previously presented) The positionally addressable array of claim 1, wherein most of the kinases or functional kinase domains on the solid support possess kinase activity.

Claim 193. (Currently amended) The positionally addressable array of claim 1, wherein the different substances are 61 kinases.

Claim 194. (Previously presented) The positionally addressable array of claim 193, wherein the kinases are members of the serine/threonine kinase family, members of the tyrosine kinase family, or the kinases comprise members of the serine/threonine kinase family and members of the tyrosine kinase family.

Claim 195. (Previously presented) The positionally addressable array of claim 1, wherein the functional kinase domains are functional kinase domains of members of the serine/threonine kinase family, functional kinase domains of members of the tyrosine kinase family, or wherein the functional kinase domains comprise functional kinase domains of kinases that are members of the serine/threonine kinase family and functional kinase domains of kinases that are members of the tyrosine kinase family.

Claim 196 (New): The positionally addressable array of claim 1, wherein the kinases or functional kinase domains are recombinant proteins.

Claim 197 (New): The positionally addressable array of claim 196, wherein the recombinant proteins are recombinant fusion proteins.

Claim 198 (New): The positionally addressable array of claim 1, wherein the kinases or functional kinase domains retain kinase activity.